

ER PROGRAM DATA ASSESSMENT
SUMMARY REPORT FORM

Batch No. E89-0052 / 1st Quarter 1989 Site Area 2 - 881 Hillside
Laboratory 881 General Labs No. of Samples/Matrix 25/Water
Reviewer Org. TechLaw, Inc.
Sample Numbers TB(1/13/89), FB1(13/89), 2-87, 4-87, 69-86, TB(1/17/89), FB(1/17/89), 70-86, 70-86D, 56-86, D56-86, 10-74, 10-74D, 5-87, 52-87, TB(1/24/89), FB(1/24/89), 3-87, 8-87, 62-86, 45-87, TB(1/26/89), FB(1/26/89), 9-74, 9-74D

Tritium Analyses by Liquid Scintillation
Data Assessment Summary

	H ³	Comments
1. Holding Times	<u>V</u>	
2. Initial and Continuing Calibrations	<u>V</u>	
3. Blanks	<u>V</u>	
4. Lab Replicates	<u>V</u>	
5. Lab Control Samples	<u>V</u>	
6. Quench and Efficiency	<u>V</u>	
7. Sample Calculations	<u>V</u>	
8. Overall Assessment	<u>V</u>	

V = Data had no problems.

A = Data acceptable but qualified due to problems.

R = Data rejected.

X = Problems, but do not affect data.

Data Quality: Data contained in this batch were reviewed and found to be valid.

ADMIN RECORD

"REVIEWED FOR CLASSIFICATION"

By R. B. Hoffman

Date 7-1-90

REVIEWED FOR CLASSIFICATION/UCNL

By George H. Setlock

Date 6/27/90

0052/tri

A-OU01-000061

Action Items: None.

Comments: None.

Note: Data Summary Tables are attached.

Marilyn Ayers
Reviewer Signature

3-20-90
Date

RADIOCHEMICAL ANALYSIS ANALYTICAL RESULTS (pCi/L)

Page 1 of 4

TABLE #: E89-0052

SITE NAME: Area 2 - Hillside

Sample Location	TB	FB	2-87	0052-2-87	4-87	0052-4-87	69-86	0052-69-86	TB	0052-TB	FB	70-86	0052-70-86	70-86D
Sample Number	0052-TB	0052-FB	0052-2-87	1/13/89	1/13/89	1/13/89	1/13/89	1/13/89	1/17/89	1/17/89	1/17/89	1/17/89	1/17/89	1/17/89
Sample Date	1/13/89	1/13/89	1/13/89	1/13/89	1/13/89	1/13/89	1/13/89	1/13/89	1/17/89	1/17/89	1/17/89	1/17/89	1/17/89	1/17/89
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
DL														
Parameter	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-
Gross Alpha	2													
Gross Beta	4													
Total Strontium	1													
Total Cesium	1													
Radium 228	1													
Tritium	400	230 U	V	220 U	V	230 U	V	240 U	V	250 U	V	230 U	V	270 U
Uranium 234 & 233	0.6													
Uranium 235	0.6													
Uranium 238	0.6													
Plutonium 239 & 240	0.01													
Americium 241 & 242	0.01													
Radium 226	0.05													
Gamma scan														
Other isotopes														

U Indicates the parameter was not detected above the Instrument Quantitation Limit
J Quantitation is approximate due to limitations identified during the quality control review
* Value is rejected due to other contractual criteria examined during the quality control review
** Value is rejected due to blank contamination identified during the quality control review
DL Detection Limit in PicoCuries per Liter (pCi/L)

DQ Data Qualifier
V Valid
A Acceptable with qualifications
R Rejected
0052L/HK44

EG&G ER Program
Rocky Flats Plant

RADIOCHEMICAL ANALYSIS ANALYTICAL RESULTS (pCi/L)

Page 2 of 4

TABLE #: E89-0052

SITE NAME: Area 2 - Hillside

Sample Location	56-86	D56-86	10-74	10-74D	5-87	52-87	TB	FB	3-87				
Sample Number	0052-56-86	0052-D56-86	0052-10-74	0052-10-74D	0052-5-87	0052-52-87	0052-TB	0052-FB	0052-3-87				
Sample Date	1/17/89	1/17/89	1/17/89	1/17/89	1/17/89	1/17/89	1/24/89	1/24/89	1/24/89				
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water				
DL													
Parameter	pCi/L	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ
Gross Alpha	2												
Gross Beta	4												
Total Strontium	1												
Total Cesium	1												
Radium 228	1												
Tritium	400	220 U		V	230 U		V	260 U		V	230 U		V
Uranium 234 & 233	0.6												
Uranium 235	0.6												
Uranium 238	0.6												
Plutonium 239 & 240	0.01												
Americium 241 & 242	0.01												
Radium 226	0.05												
Gamma scan													
Other Isotopes													

U Indicates the parameter was not detected above the Instrument Quantitation Limit
J Quantitation is approximate due to limitations identified during the quality control review
* Value is rejected due to other contractual criteria examined during the quality control review
** Value is rejected due to blank contamination identified during the quality control review
DL Detection Limit in PicoCuries per Liter (pCi/L)

DQ Data Qualifier
V Valid
A Acceptable with qualifications
R Rejected
0052L/rk44

EG&G ER Program
Rocky Flats Plant

Page 3 of 4

TABLE #: E89-0052

SITE NAME: Area 2 - Hillside

[illegible]

U Indicates the parameter was not detected above the Instrument Quantitation Limit

J Quantitation is approximate due to limitations identified during the quality control review

- Value is rejected due to other contractual criteria examined during the quality control review

Value is rejected due to blank contamination Identified during the quality control review

DL Detection Limit in PicoCuries per Liter (pCi/L)

DQ Data Qualifier

Valid

A Acceptable with qualifications

R Rejected

0052L/rk44

**EG&G ER Program
Rocky Flats Plant**

Page 4 of 4

SITE NAME: Area 2 - Hillside

Sample Location	Reagent Blank	Reagent Blank	Reagent Blank
Sample Number			
Sample Date			
Matrix	Water	Water	Water
DL pCi/L	Val.	+/-	Val.
Parameter	Val.	+/-	Val.
Gross Alpha	2		
Gross Beta	4		
Total Strontium	1		
Total Cesium	1		
Radium 228	1		
Tritium	400	250 U	260 U
Uranium 234 & 233	0.6		
Uranium 235	0.6		
Uranium 238	0.6	/	
Plutonium 239 & 240	0.01		
Americium 241 & 242	0.01		
Radium 226	0.05		
Gamma scan			
Other Isotopes			

DQ	Data Qualifier
V	Valid
A	Acceptable with qualifications
R	Rejected
	0052L/rk44

U	Indicates the parameter was not detected above the Instrument Quantitation Limit
J	Quantitation is approximate due to limitations identified during the quality control review
*	Value is rejected due to other contractual criteria examined during the quality control review
•	Value is rejected due to blank contamination identified during the quality control review
DL	Detection Limit in PicoCuries per Liter (pCi/L)

**EG&G ER Program
Rocky Flats Plant**

**Radiochemical Data Completeness
Checklist for Tritium Analyses of Soil and Water**

- A. Yes Case Narrative
 Yes Abnormalities explained
 Yes Matrix Problems explained
 Yes Instrument problems explained
 Yes Improper collection, storage, preservation, container explained
 Yes Hold times met, explained if not met
- B. Yes Initial and Continuing Calibration Data Package
 Yes Detector ID with Program Settings
 Yes Date of Performance Check
 Yes Batch Number
 Yes NIST Traceable Reference Material certificates
 Yes Quench Monitor Values and CPM for Standard used to check
 long term performance of cocktail and instrument
 Yes Background-Blank vials CPM Results
- C. Yes Reagent Blanks Data Package
 Yes ID of each detector used
 Yes Analyst initials
 Yes Date reagent blanks were analyzed
 Yes ID of samples analyzed with the reagent blanks
 Yes Type of method blank used, MDA of method
 Yes Volume of aliquot for reagent blanks
- D. Yes Replicate Sample Data Package
 Yes ID of each detector used
 Yes Analyst Initials
 Yes Date sample and replicates were analyzed
 Yes Collection Date
 Yes Sample IDs, values obtained for sample and replicates
 Yes Count Durations of sample and replicates
 Yes Volume of aliquot for sample and replicates
 Yes Calculated uncertainties and MDAs
- E. Yes Lab Control Samples (LCSs) Data Package
 Yes ID of each detector used
 Yes Analyst initials
 Yes Date LCSs were analyzed
 Yes ID of LCS
 Yes Values obtained for LCSs with uncertainty and MDA
 Yes True value of LCSs with uncertainty
 Yes ID of samples analyzed with the LCSs

- F. Yes Minimum Detectable Activity
 Yes Background Measurements including: counts and
 count durations of samples and backgrounds taken during
 the same weekly time period
 Yes Date of analysis
 Yes Background CPM
 Yes MDA calculated for each isotopic analysis for the sample
- G. Yes Quench and Efficiency
 Yes Quench Monitor used
 Yes Quench Monitor Values and Efficiency Values
 Yes Date of last quench curve check
 Yes Detector ID
 Yes NIST Traceable Reference Material certificates used
 to determine detector efficiencies and quench
 Yes Batch number and sample IDs; Efficiency standard and
 backgrounds used
 Yes Volume added to cocktail, cocktail used, and vials used
 Yes Instrument settings used when detector efficiencies and
 quench curve were run
- H. Yes Sample Data Package
 Yes Printed Report of results for sample, reruns
 Yes Computer calculations sheet including: sample IDs,
 isotopes of interest, counts obtained for samples, background
 counts obtained, sample aliquot, collection date, count date,
 count duration, detector efficiency, and activities obtained
 for samples, uncertainties, and MDAs
 Yes Raw Data from counter, copies of notebook pages
 Yes Instrument log to identify the sample ID with the raw data
 from the counter